**What is chemotherapy?**
Chemotherapy drugs kill or disable cancer cells. Although chemotherapy is a treatment option for most types of breast cancer, it is not always needed. The decision to use it is based on a few things:

- tumor stage and certain tumor characteristics (such as hormone receptor status),
- age,
- overall health, and
- personal preferences.

**When chemotherapy is given**
For those with early breast cancer, chemotherapy is often given after breast surgery (called adjuvant chemotherapy) but before radiation therapy. It helps lower the risk of cancer returning by getting rid of cancer that might still be in the body. Adjuvant chemotherapy usually starts within 4 to 8 weeks after surgery.

Chemotherapy is sometimes used before surgery (called neoadjuvant or preoperative chemotherapy). In women with large tumors who need a mastectomy, neoadjuvant chemotherapy may shrink the tumor enough so that a lumpectomy becomes an option.

**How is chemotherapy given?**
Most chemotherapy drugs are given through an IV (intravenously) at a hospital or clinic. At each visit, an IV is inserted into the arm. This allows the drugs to drip into the bloodstream. A few chemotherapy drugs are taken by mouth.

**How often and for how long is chemotherapy given?**
Chemotherapy is often given in cycles, with days or weeks off between treatments. These cycles give your body a chance to heal between treatments. A full course usually lasts 3 to 6 months.

**Common chemotherapy drugs for early and locally advanced breast cancer**
This list includes the most common chemotherapy drugs used to treat early and locally advanced breast cancer.

<table>
<thead>
<tr>
<th>Drug (abbreviation)</th>
<th>Brand name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclophosphamide (C)</td>
<td>Cytoxan</td>
</tr>
<tr>
<td>Docetaxel (T)</td>
<td>Taxotere</td>
</tr>
<tr>
<td>Doxorubicin (A)</td>
<td>Adriamycin</td>
</tr>
<tr>
<td>Epirubicin (E)</td>
<td>Ellence</td>
</tr>
<tr>
<td>Methotrexate (M)</td>
<td>Maxtrex</td>
</tr>
<tr>
<td>Paclitaxel (T)</td>
<td>Taxol</td>
</tr>
</tbody>
</table>

Although each of these drugs is effective on its own, drugs may be given in combination which could make them even better at killing cancer cells.

**What are some short-term side effects of chemotherapy?**
Most begin to go away shortly after treatment ends. They depend on the chemotherapy drugs you are given. Your doctor can prescribe medications to prevent or relieve some side effects. Some of the most common short-term side effects are described below.

**Hair loss (alopecia)**
With some chemotherapy drugs, you almost always lose your hair.

Though it’s most visible on your head, hair loss may occur all over your body (including eyebrows and pubic hair). Using a gentle shampoo and washing your hair less often may reduce hair loss.

Some women choose to cut their hair short once they start chemotherapy to gain some control. If you would like to wear a wig, find one to match your hair color and style before treatment begins. Hair will begin to grow back 1 to 2 months after chemotherapy ends.

**Fatigue**
Try to get plenty of rest and ask family and friends for help. Exercise may help relieve fatigue.

For more information, visit www.komen.org or call Susan G. Komen’s breast care helpline at 1-877 GO KOMEN (1-877-465-6636) Monday through Friday, 9 AM to 10 PM ET.
Nail weakness
Some chemotherapy drugs can weaken your fingernails and toenails. The nails become sore and may fall off. Keeping your nails short during treatment may make nail care easier. Your nails will return to normal once chemotherapy ends.

Nausea and vomiting
Some (but not all) chemotherapy drugs cause nausea and vomiting.

Eating bland, easy-to-digest foods that do not have an odor may help. Eating several small meals throughout the day (instead of larger meals) may also help.

Pain
Chemotherapy drugs can cause nerve damage. You may feel a burning or shooting pain or numbness, usually in your fingers or toes. These almost always go away after chemotherapy ends.

Chemotherapy can also cause muscle pain or numbness. If you have these side effects, tell your doctor. He/she may want to adjust your treatment plan, prescribe mild pain relievers or suggest other treatments to ease the pain or numbness.

Mouth and throat sores (mucositis or stomatitis)
Some chemotherapy drugs cause sores in the mouth or throat. These sores can make it painful to eat or drink. Special mouthwash or other medication can be prescribed to relieve pain and treat the sores. Rinsing your mouth with baking soda and water may help. Avoid mouthwashes that contain alcohol. Mouth sores go away once chemotherapy ends.

Other short-term side effects of chemotherapy
• Constipation
• Diarrhea
• Temporary loss of menstrual periods (amenorrhea)
• Menopausal symptoms (such as hot flashes)
• Risk of infection
• Weight gain
• Sleep disorders (insomnia)

Dental check-up
Get a dental check-up before starting chemotherapy. During treatment, brush your teeth and gums after each meal and at bedtime using a soft toothbrush.

Cognitive function (cancer brain, chemo-brain)
Some people have cognitive problems after chemotherapy. Problems include mental “fogginess” and trouble with concentration, memory and multi-tasking. Most people have mild symptoms. Some may have troubling cognitive problems that can impact daily life. Most women say these symptoms go away over time. The longer term impact of chemotherapy on cognitive function is under study.

Resources
Susan G. Komen
1-877 GO KOMEN (1-877-465-6636), www.komen.org
Questions to Ask Your Doctor
www.komen.org/questions

American Cancer Society
1-800-ACS-2345, www.cancer.org

National Cancer Institute
1-800-4-CANCER, www.cancer.gov

Related fact sheets in this series:
• Clinical Trials
• Getting the Support You Need
• Making Treatment Decisions

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